

PROCEEDINGS

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NOTES ON THE SCAPHOPOD MOLLUSKS:
RECTIFICATIONS OF NOMENCLATURE II¹

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In the course of studying the Tertiary scaphopods of western North America, certain nomenclatural problems were encountered which require rectification. The purpose of this paper is to correct the present nomenclatural misconceptions concerning the scaphopod material described by Timothy A. Conrad as "*Teredo substriata*," in 1849. Although subsequently Conrad (1865) questionably referred his material to the scaphopod genus *Dentalium*, he was not aware that this combination was preoccupied by *Dentalium substriatum* Deshayes, 1825.

As Dall (1909) pointed out, Conrad's taxon not only was a homonym, but the original material consisted of two valid species. Dall renamed the longitudinally striated specimens *Dentalium conradi* and the smooth ones *Dentalium petricola*. Unfortunately, Dall was not cognizant of the prior proposal by Pilsbry and Sharp (1898) of *Dentalium pseudonyma* to replace Conrad's homonym. Pilsbry and Sharp, moreover, failed to recognize the composite nature of Conrad's type material.

Inasmuch as the smooth specimens were not mentioned by Conrad (1850) in the brief original description, it appears advisable to restrict *Dentalium pseudonyma* to the finely striated species (Conrad's figure 7a) and retain *Dentalium petricola* Dall (1909) for the smooth species (Conrad's figures 7 and 7b). Thus, *Dentalium conradi* Dall (1909) becomes a junior synonym of *Dentalium pseudonyma* Pilsbry and Sharp (1898).

Annotated synonomies for the two recognized species are given below.

Dentalium (*Dentalium?*) *pseudonyma* Pilsbry and Sharp, 1898.

Teredo substriata Conrad, 1849 [in part], in Dana, Geol. U. S. Explor. Exped. (Wilkes), Appex 1, pt. 3, p. 728, pl. 20, figs. 7, 7b, not fig. 7a. Not *Dentalium substriatum* Deshayes, 1825.

¹The first number bearing this title appeared in vol. 67, pp. 183-188, August 5, 1954 of these Proceedings. Dr. J. W. Durham, Department of Paleontology, University of California, Berkeley, kindly read the manuscript.

- Teredo substriata*, Woodward, 1857, in Carpenter, Rept. Brit. Assoc. Adv. Sci. for 1856, p. 367.
- Dentalium? substriatum* (*Teredo*), Conrad, 1865 [in part], Amer. Jour. Conch., vol. 1, pt. 2, p. 151, (reference to Conrad, 1849, fig. 7a only; fig. 7b not cited).
- Dentalium substriatum*, Gabb, 1868, Geol. Surv. Calif., Paleont., p. 115, ("Miocene, Astoria, Oregon").
- Dentalium pseudonyma* Pilsbry and Sharp, 1898, [in part], Man. Conch., ser. 1, val. 17, p. 213, ("new name for *Teredo substriata* Conrad, 1850" [sic], here restricted to Conrad's fig. 7a).
- Dentalium substriatum*, Arnold, 1908, Proc. U. S. Nat. Mus., vol. 34, no. 1617, pl. 33, fig. 16.
- Dentalium substriatum*, Arnold, 1909, in Branner, Newsom, and Arnold, U. S. Geol. Surv., Folio no. 163, fig. 22.
- Dentalium conradi* Dall, 1909, U. S. Geol. Surv. Prof. Pap. no. 59, p. 136, (new name for *Teredo substriatum* Conrad, 1849, in part, fig. 7a only).
- Not *Dentalium substriatum*, Arnold, 1910, U. S. Geol. Surv. Bull. 398,
- Dentalium substriatum*, Anderson, 1911, Proc. Calif. Acad. Sci., ser. 4, p. 71, pl. 26, fig. 15, ("Tejon, Eocene, Coalingia district").
vol. 3, p. 100.
- Dentalium conradi* (?), Clark, 1912, Univ. Calif. Publ. Geol., vol. 7, no. 4, p. 51.
- Dentalium conradi*, Arnold and Hannibal, 1913, Proc. Amer. Philos. Soc., vol. 52, no. 212, pp. 581, 583, 584, 588.
- Dentalium conradi*, Weaver, 1916a, Univ. Wash. Publ. Geol., vol. 1, no. 1, pp. 30, 32.
- Dentalium conradi*, Weaver, 1916b, Proc. Calif. Acad. Sci., ser. 4, vol. 6, no. 2, p. 37.
- Dentalium conradi*, Weaver, 1916c, Proc. Calif. Acad. Sci., ser. 4, vol. 6, no. 3, p. 51.
- Dentalium conradi*, Clark, 1918, Univ. Calif. Publ. Geol., vol. 11, no. 2, pp. 80, 91, 98, 190.
- Dentalium cf. conradi*, Wagner and Schilling, 1923, Univ. Calif. Publ. Geol., vol. 14, no. 6, p. 246.
- Dentalium conradi*, Etherington, 1931, Univ. Calif. Publ. Geol., vol. 20, no. 5, p. 48.
- Dentalium conradi*, Weaver, 1942, Univ. Wash. Publ. Geol., vol. 5, pt. 1, p. 267; pt. 3, pl. 100, fig. 20.
- Dentalium conradi*, Keen, 1943, Trans. San Diego Soc. Nat. Hist., vol. 10, no. 2, p. 37.
- Dentalium conradi?*, Durham, 1944, Univ. Calif. Publ. Geol., vol. 27, no. 5, pp. 125, 191.
- Dentalium conradi*, Keen and Bentson, 1944, Geol. Soc. Amer. Spec. Pap., no. 56, p. 123.
- Dentalium conradi*, Vokes, Norbisrath, and Snavely, 1949, U. S. Geol. Surv. Oil and Gas Invest. Prelim. map 88.

Original description of *Teredo substriata*: "Nearly straight and evenly cylindrical, very slightly tapering. Surface minutely and very neatly striate longitudinally" Conrad, 1849.

Type locality: "Astoria, Oregon, Miocene."

Type depository: U. S. National Museum 3481, in part.

Geologic range: Late Oligocene to "Middle" Miocene.

Occurrences: Washington, Blakeley formation, Oligocene ("Seattle formation," Arnold and Hannibal, 1913; "*Echinophoria rex* zone," Durham, 1944); Twin River formation, Oligocene-Miocene (Arnold and Hannibal, 1913); Astoria formation, Miocene (Etherington, 1931). Oregon, Astoria formation, Miocene (Weaver, 1942; Vokes Norbisrath and Snavely, 1949). California, Temblor formation, Miocene ("Kern River group," Anderson, 1911); Round Mountain Silt, Miocene (Keen, 1943); "Monterey formation" [Contra Costa County], Miocene (Clark, 1912); San Ramon formation [Contra Costa County], "Oligocene" [Miocene] ("San Lorenzo series," Clark, 1918); San Lorenzo formation, Oligocene (Arnold, 1908; 1909); Pleito formation, Oligocene (Wagner and Schilling, 1923).

Dentalium (Rhabdus) petricola Dall, 1909

Teredo substrata Conrad, 1849 [in part] in Dana, Geol. U. S. Explor. Exped. (Wilkes), Appex 1, pt. 3, p. 728, pl. 20, figs. 7, 7b, not fig. 7a. Not *Dentalium substriatum* Deshayes, 1825.

Dentalium? substriatum (*Teredo*), Conrad 1865 [in part], Amer. Jour. Conch., vol. 1, pt. 2, p. 151, (reference to Conrad, 1849, fig. 7 only).

Dentalium petricola Dall, 1909, U. S. Geol. Surv. Prof. Pap. no. 59, p. 136, (new name for *Teredo substratum* Conrad, 1849, in part, figs. 7, 7b only).

Dentalium petricola, Clark, 1912, Univ. Calif. Publ. Geol., vol. 7, no. 4, p. 51.

Dentalium petricolum [sic], Anderson and Martin, 1914, Proc. Calif. Acad. Sci., ser. 4, vol. 4, no. 3, p. 43.

Dentalium petricola, Clark, 1915, Univ. Calif. Publ. Geol., vol. 9, no. 2, p. 15.

Dentalium petricola, Clark, 1918, Univ. Calif. Publ. Geol., vol. 11, no. 2, pp. 80, 98, 190.

Dentalium rectius "Cpr." Howe, 1922, Univ. Calif. Publ. Geol., vol. 14, no. 3, p. 94. Not *Dentalium rectius* Carpenter, 1865.

Dentalium petricolum, Loel and Corey, 1932, Univ. Calif. Publ. Geol., vol. 22, no. 3, p. 152.

Dentalium petricola, Weaver, 1942, Univ. Wash. Publ. Geol., vol. 5, pt. 1, p. 267.

Dentalium petricola, Keen, 1943, Trans. San Diego Soc. Nat. Hist., vol. 10, no. 2, p. 37.

Dentalium petricola, Durham, 1944, Univ. Calif. Publ. Geol. Sci., vol. 27, no. 5, pp. 125, 191.

Dentalium petricola, Snavely and Vokes, 1949, U. S. Geol. Surv. Oil and Gas Invest. Prelim. map 97.

Dentalium petricola, Vokes, Norbisrath and Snavely, 1949, U. S. Geol. Surv. Oil and Gas Invest. Prelim. map 88.

Dentalium petricola, Weaver, 1949, Geol. Soc. Amer. Mem. 35, p. 66.

Dentalium petricola, Weaver, 1953, Univ. Wash. Publ. Geol., vol. 7, p. 60.

Type locality: "Astoria, Oregon, Miocene."

Type depository: Syntypes U. S. National Museum 3528 and 3481, in part.

Geologic range: Late Oligocene to "Middle" Pliocene.

Occurrences: Washington, Blakeley formation, Oligocene ("Echinophoria rex zone," Durham, 1944); Astoria formation, Miocene (Weaver, 1942). Oregon, Astoria formation, Miocene (Snavely and Vokes, 1949; Vokes, Norbisrath and Snavely, 1949); Empire formation, Pliocene (Howe 1922; Weaver, 1942). California, Temblor formation, Miocene ("Tremblor horizon," Loel and Corey, 1932; "Kern River district," Anderson and Martin, 1914); Round Mountain Silt, Miocene (Keen, 1943); "Monterey formation" [Contra Costa County], Miocene (Clark, 1912, 1915); San Ramon formation [Contra Costa County], "Oligocene" [Miocene] ("San Lorenzo series," Clark, 1918; "San Ramon sandstone" Weaver, 1949; "San Ramon formation" Weaver, 1953).

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Pilsbry, Henry A. and B. Sharp, in George W. Tryon, Jr., 1897-1898, Manual of Conchology, ser. 1, vol. 17, Scaphopoda, Appendix A, Fossil Scaphopoda, pp. 197-240, [1898], Philadelphia.